IN THE CLAIMS:

1. (Previously Presented) An interleaver for a turbo encoder and decoder comprising:

a first table populated with a first set of parameters to allow intra-row permutation of data within an array in accordance with a first wireless communication standard when operation in the first wireless communication standard is required; and

a second table populated with a second set of parameters to allow inter-row permutation of the data in accordance with the first wireless communication standard when operation in the first wireless communication standard is required wherein the first table is populated with a third set of parameters to allow intra-row permutation of data within an array in accordance with a second wireless communication standard when operation in the second wireless communication standard is required and to populate the second table with a fourth set of parameters to allow inter-row permutation of the data in accordance with the second wireless communication standard when operation in the second wireless communication standard is required;

wherein the interleaver further comprises a buffer arranged to compare received interleaved addresses with the size of the data array and to store valid addresses;

wherein the buffer is arranged to control the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver to allow the outputting of addresses from the buffer to be performed at substantially a constant rate.

2. (Original) An interleaver according to claim 1, wherein the first wireless communication standard is the family of WCDMA standards within 3GPP.

3. (Previously Presented) An interleaver according to claim 2, wherein the second wireless communication standard is the family of WCDMA standards within 3GPP2.

4. (Original) An interleaver according to claim 3, wherein the parameters populated in the first table are $(Rj)\bmod(p')$, where j is the row number for the data array, Rj is a row specific prime number for the array and p' corresponds to a selected prime number minus 1 for the 3GPP standard and the total number of columns within the data array for 3GPP2.

5. (Previously Presented) An interleaver according to claim 1, wherein the parameters populated in the second table are inter-row permutation sequences multiplied by column numbers associated with the data array.

6. (Original) An interleaver according to claim 4, further comprising a multiply and modulo module arranged to receive $(Rj)\bmod(p')$ values from the first table and to generate and output via a first output $[ixRj]\bmod(p')$ where i corresponds to the columns of the data array.

7. (Previously Presented) An interleaver according to claim 6, wherein the multiply and modulo module is arranged to generate and output via a second output $[ixRj]\bmod(p')$ when operating in the family of WCDMA standards within 3GPP2.

8. (Previously Presented) An interleaver according to claim 1, wherein a rate of received interleaved addresses to the buffer is responsive to a relationship between valid and invalid addresses.

9. (Previously Presented) An interleaver according to claim 1, wherein a size of the buffer is responsive to a relationship between valid and invalid addresses.

10. (Previously Presented) An interleaver according to claim 1, wherein the buffer is adapted to avoid introducing irregularity into the timing of the output of the interleaved address.

11. (Currently Amended) An interleaver for a turbo encoder and decoder comprising:

at least one component adapted to provide valid and non-valid interleaved addresses; and

a buffer arranged to store valid addresses and to output valid addresses at substantially constant rate;

wherein the buffer is adapted to compare received interleaved addresses with the size of ~~the~~ a data array to determine a validity of a received address.

12. (Previously Presented) An interleaver according to claim 11, wherein the at least one component comprises a row counter.

13. (Previously Presented) An interleaver according to claim 11, wherein the buffer is arranged to control the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver.

14. (Previously Presented) An interleaver according to claim 11, wherein a rate of received interleaved addresses to the buffer is responsive to a relationship between valid and invalid addresses.

15. (Previously Presented) A turbo decoder comprising an interleaver according to claim 11, and a processor arranged to populate the first table and second table with the first set of parameters and the second set of parameters respectively when operation in the first wireless communication standard is required and to populate the first table and the second table with the third set of parameters and

the fourth set of parameters respectively when operation in the second communication standard is required.

16. (Previously Presented) A turbo encoder comprising an interleaver according to claim 9, and a processor arranged to populate the first table and second table with the first set of parameters and the second set of parameters respectively when operation in the first wireless communication standard is required and to populate the first table and the second table with the third set of parameters and the fourth set of parameters respectively when operation in the second communication standard is required.

17. (Previously Presented) A method for interleaving m a turbo encoder and decoder comprising:

    populating a first table with a first set of parameters to allow intra-row permutation of data within an array in accordance with a first wireless communication standard when operation in the first wireless communication standard is required;

    populating a second table with a second set of parameters to allow inter-row permutation of the data in accordance with the first wireless communication standard when operation in the first wireless communication standard is required;

    populating the first table with a third set of parameters to allow intra-row permutation of data within an array in accordance with a second wireless communication standard when operation in the second wireless communication standard is required;

    populating the second table with a fourth set of parameters to allow inter-row permutation of the data in accordance with the second wireless communication standard when operation in the second wireless communication standard is required;

    comparing received interleaved addresses with the size of the data array;

    storing in a buffer valid addresses; and

controlling the flow of data into the interleaver, such that when a predetermined number of addresses have been stored in the buffer the buffer stops the flow of data into the interleaver to allow the outputting of addresses from the buffer to be performed at substantially a constant rate.

18. (Previously Presented) The method according to claim 17, wherein a rate of received interleaved addresses to the buffer is responsive to a relationship between valid and invalid addresses.

19. (Previously Presented) The method according to claim 17, wherein a size of the buffer is responsive to a relationship between valid and invalid addresses.

20. - 21. (Canceled)